

(19) World Intellectual Property  
Organization  
International Bureau



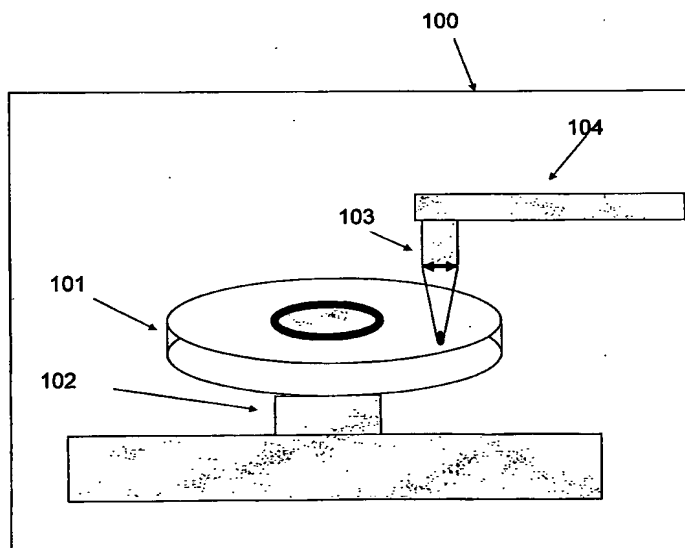
(43) International Publication Date  
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number  
**WO 2005/015552 A2**

- (51) International Patent Classification<sup>7</sup>: **G11B 7/007**, 7/09, 7/14, 7/24, 7/135
- (21) International Application Number: **PCT/IL2004/000730**
- (22) International Filing Date: **5 August 2004 (05.08.2004)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:  
60/492,742                      6 August 2003 (06.08.2003)      **US**
- (71) Applicant (for all designated States except US): **MEM-PILE INC.** [US/US]; 1013 Centre Road, Suite 400, Wilmington, DE 19808 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **ALPERT, Ortal** [IL/IL]; 16 Ha'arazim Street, 96182 Jerusalem (IL).
- (74) Agent: **REINHOLD COHN AND PARTNERS**; P.O.B. 4060, 61040 Tel Aviv (IL).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: **METHODS AND APPARATUS FOR FORMATTING AND TRACKING INFORMATION IN A THREE-DIMENSIONAL STORAGE MEDIUM**



(57) Abstract: A formatter for inscription of marks on to a 3D translucent optical medium to enable recording and retrieval of information from the medium, includes a clamping mechanism to hold the media, and at least one optical unit calibrated to focus at least one diffraction limited spot within the medium at a respective depth therein. At least one light source is optimized for the inscription of marks, and at least one actuator moves the spot relative to the medium.